[1]**HITACHI**

Video Deck VHS

VT-M290A
Owner's Manual

Your Complete Guide
to Videocassette Viewing
and Recording

Using These quality features:

- Rotary 4-head Record/Playback System
- Auto Power On and Off System
- Automatic Rewind
- Auto Repeat
- Digital Auto Tracking (DTR)
- Three Different Record/Playback Speeds
- Automatic Playback Speed Selection
- 1 Year, 7 events (including Daily and Weekly Timer Recording)
- IRT (Instant Recording Timer)
- Rental Play Mode
- 2 Step Picture Search Operation
- Still
- 181 Channel Capability PLL Frequency Synthesizer Tuner with Direct Station Call
- Infrared Remote Control
- Real Time Tape Counter
- Direct Button Operation
- On-Screen-Programming
- Bilingual on screen menu display selectable in English or Spanish

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NING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER)(OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

THIS SYMBOL[2] INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.

THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

IMPORTANT SAFEGUARDS

1. Read Instructions-All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions-The safety and operating instructions should be retained for future reference.

3. Heed Warnings-All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow Instructions-All operating and use instructions should be followed.

5. Cleaning-Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

EXCEPTION: A product that is meant for uninterrupted service and, that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging the appliance in the cleaning description otherwise required in item 5.

6. Attachments-Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

7. Water and Moisture-Do not use this video product near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

8. Accessories-Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the appliance should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. Ventilation-Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating, and these opening must not be blocked or covered. The openings should never be blocked by placing the video product on a bed, sofa, rug, or other similar surface. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

10. Power Sources-This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

11. Grounding or Polarization-This video product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

12. Power Cord Protection-Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. Outdoor Antenna Grounding-If an outside antenna or cable system is connected to the video product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA No. 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. (Fig. A)

Antenna Grounding Illustration

14. Lightning-For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power-line surges.

15. Power Lines-An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

16. Overloading-Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock. Never spill liquid of any kind on the video product.

17. Object and Liquid Entry-Never push objects of any kind into this video product through any openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

18. Servicing-Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. Damage Requiring Service-Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
a. When the power-supply cord or plug is damaged.
b. If liquid has been spilled, or objects have fallen into the video product.
c. If the video product has been exposed to rain or water.
d. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
e. If the video product has been dropped or damaged in any way.
f. When the video product exhibits a distinct change in performance-this indicates a need for service.

20. Replacement Parts-When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

21. Safety Check-Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

22. Heat-This video product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

The serial number of this product may be found on the back of the VCR. No others have the same serial number as yours. You should record the number and other vital information here and retain this book as a permanent record of your purchase to aid identification in case of theft.

Date of Purchase

Dealer Purchased from

Dealer Address

Dealer Phone No.

Model No.

Serial No.

PRECAUTIONS

LOCATION

For safe operation and satisfactory performance of your VCR, keep the following in mind when selecting a place for its installation:

 Shield it from direct sunlight and keep it away from sources of intense heat.

 Avoid dusty or humid places.

 Avoid places with insufficient ventilation for proper heat dissipation. Do not block the ventilation holes at the top and bottom of the VCR. Do not place the unit on a carpet because this will block the ventilation holes.

 Install unit in a horizontal position.

 Avoid locations subject to strong vibration.

 Do not place the VCR near strong magnetic fields.

 Do not move the unit from a cold to a hot place or vice versa.

AVOID THE HAZARDS OF ELECTRICAL SHOCK AND FIRE

 Do not handle the power cord with wet hands.

 Do not pull on the power cord when disconnecting it from AC wall outlet. Grasp it by the plug.

 If, by accident, water is spilled on your VCR, unplug the power cord immediately ad take the unit to an Authorized Service Center for servicing.

 Do not put your fingers or objects into the VCR cassette holder.

 Do not place anything directly on top of the VCR.

WARNING :
Moisture condensation may occur inside the unit when it is moved from a cold place to a warm place, or after heating a cold room or under conditions of high humidity. do not use the VCR until its inside is dry.

CAUTION:
TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

FCC WARNING- This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

IMPORTANT COPYRIGHT INFORMATION
Unauthorized recording or use of broadcast television programming, video tape, film or other copyrighted material may violate applicable copyright laws. We assume no responsibility for the unauthorized duplication, use or other acts which infringe upon the rights of copyright owners.

FEATURES

 Rotary 4-head Record/Playback System- Rotary 4-heads to ensure excellent picture quality and special effects playback

 Auto Power On and Off System- Automatically turns the VCR on as you insert the cassette, and turns off after auto-rewind, ejects when the beginning of the tape is reached.

 Automatic Rewind- Automatically rewinds at the end of the tape except during timer recording.

 Auto Repeat- Lets you set the VCR to automatically repeat a tape when it reaches the end.

 Digital Auto Tracking (DTR)- Adjusts the tracking automatically for each tape you play.

 Three Different Record/Playback Speeds- Select the Standard Play (SP mode), Long Play (LP mode) or Super Long Play (SLP mode) for up to eight hours of recording/playback with a T-160 tape.

 Automatic Playback Speed Selection- Automatically selects the proper playback speed.

 1 Year, 7 events (including Daily and Weekly Timer Recording)- The built-in timer allows you to record up to 7 programs at different times on different channels up to 1 year in advance. The daily timer allows recordings to be made of daily broadcasts, and the weekly timer allows recording to be made once a week up to the end of the tape.

 IRT (Instant Recording Timer)- Instant timed recording from 30 to 480 minutes is possible at the push of IRT button.

 Rental Play Mode- Improves playback picture quality of worn tapes, especially rental tapes.

 2 Step Picture Search Operation- You can view a video program at a high speed or super high speed in either a forward or reverse direction in LP and SLP mode.

 STILL- "Freeze" the picture at any time, for close viewing of a particular scene.

 181 Channel Capability PLL Frequency Synthesizer Tuner with Direct Station Call- (A converter may be necessary to view scrambled cable channels.)

 Infrared Remote Control- Allows you to use most of the controls from a remote location.

 Real Time Tape Counter- This shows the elapsed recording or playback time in hours, minutes, and seconds. The "-" indication will appear when the tape is rewound further than the tape counter position "0:00:00".

 Direct Button Operation- When a tape is in the VCR and the power is off, just pressing PLAY, REW or F.FWD button on the main unit will automatically turn on the VCR and playback, rewinding or fast-forwarding will start immediately.

 On-Screen Programming- All operating and programming functions appear on your TV screen.

 Bilingual on-screen menu display selectable in English or Spanish

 Just-In Time Recording- Measures the remaining tape and automatically adjusts the tape speed so that the automatic timer recording fits on a cassette.

 Tape Remainder- You can check the remaining running time of your tape.

 Slow Motion- You can view the video program at a slower than normal playback speed. Slow speed can be controlled by pressing F.FWD button (faster) or REW button (slower).

MEMO'S

OPERATING CONTROLS AND FUNCTIONS

-FRONT VIEW-

1 Cassette Compartment

2 REW button-Press to rewind the tape, or to view video in reverse direction at a faster than normal speed. Press PLAY button to return VCR to normal playback speed.

3 PLAY button-Press to begin playback of a tape.

4 F.FWD button-Press to advance the tape, or to view video in forward direction at a faster that normal speed. Press PLAY button to return VCR to normal playback speed.

5 PAUSE button-Press to temporarily stop the tape during recording or to view a still picture during playback.

6 IRT button-Press to activate instant recording timer mode.

7 STOP/EJECT button-Press to stop the tape motion. Press to remove the tape from VCR.

8 REC button-Press to begin manual recording.

9 CHANNEL buttons-Press to select the channel for viewing or recording.
TRACKING function-Press (▲) or (▼) to minimize video 'noise' (lines or dots on the TV screen) during tape playback.

10 Digital Display-Displays the clock, timer recording, counter, channel etc.

11 Remote Sensor window-Receives the infrared control signals from the handheld remote control unit.

12 POWER button-Press to turn VCR on and off. Press to activate the automatic timer recording.

-REAR VIEW AND TERMINALS-

13 Power cord-Connect to a standard AC outlet (120V/60Hz).

14 AUDIO OUT jack-For connection to the audio in jack of your audio equipment or another VCR.

15 AUDIO IN jack-For connection to the audio output jack of your audio equipment or another VCR.

16 ANT. IN terminal-For connection to an antenna or CATV.

17 ANT. OUT terminal-For connection to an antenna in terminal of your TV.

18 CH3/CH4 selector switch-Use to select the video output channel (3 or 4) for playback from the VCR.

19 VIDEO IN jack-For connection to the video output jack of your video camera or another VCR.

20 VIDEO OUT jack-For connection to the video in jack of video processor or another VCR.

REMOTE CONTROL OPERATION

You can operate most of your VCR's functions from the Remote Control (included). The buttons on the Remote Control have the same functions as the corresponding buttons on the VCR.

HOW TO USE THE REMOTE CONTROL

See Remote Control Diagram

1 POWER button-Press to turn VCR on and off. Press to activate the automatic timer recording.

2 MENU button-Press to display main menu on the TV screen.

3 SELECT button-Press to select setting modes (TIMER PROGRAMMING, CHANNEL SET UP, SETTING CLOCK, RENTAL, etc) from menu.

4 TAPE SPEED button-Press to set desired recording speed. (SP/LP/SLP)

5 MUTE button-Press to mute the TV's sound. Press it again to resume the sound.

6 ADD/DELETE button-Press to add or delete channel numbers. Press to cancel a timer program.

7 VOL button-Press to adjust the desired TV's volume level by using either "▲" or "▼" button.

8 PLAY button-Press to playback the tape.

9 REW button-Press to rewind the tape or to view the picture rapidly in reverse during playback. (Rewind Search)
SLOW [-] Function- Press to control speed in slow motion. (slower)

10 STOP button-Press to stop the tape motion.

11 REC button-Press to begin manual recording.

12 PAUSE button-Press to temporarily stop the tape during recording or to view a still picture during playback.
F.ADV Function- Press to advance one frame during pause/still mode. To release, press PAUSE button again.

13 F.FWD button-Press to rapidly advance the tape or to view the picture rapidly in forward during playback. (Forward Search)
SLOW [+] Function- Press to control speed in slow motion. (faster)

14 CH button-Press to select desired channel by using either ▲ or ▼ button. They cannot be used during Timer Recording.
You can reduce the noise lines by pressing ▲ or ▼ button in slow mode. When the picture begins to vibrate vertically, adjust to stabilize the picture by pressing ▲ or ▼ button in the Still mode.

15 COUNTER MEMORY button-Press to set counter memory on and off.

16 VCR/TV button-Press to select TV or VCR mode.
VCR position: to view playback, to monitor video recordings or watch TV using the VCR tuner.
TV position: to watch TV or to view one program while recording another.

17 NUMBER buttons-Press to select desired channels and to enter digits for setting program. They cannot be used to set desired channel during Timer Recording. To select channels from 1 to 9, first press "0" button then 1 to 9.
100/ENT button - Press to select cable channels which are equal or greater than number 100.

[MODE SELECT]

18 CATV button-For details, see page 31.[4]ACTUALLY PAGE 32

19 TV button-For details, see page 31.

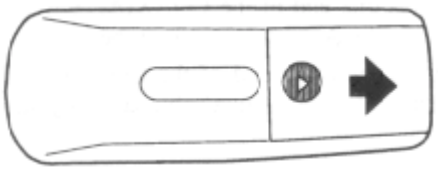
20 VCR button-For details, see page 31.

SLOW Function- Press both PLAY and PAUSE button at the same time to reduce the playback speed. Slow speed can be controlled by pressing F.FWD button (faster) or REW button (slower).

INSTALLING THE BATTERIES

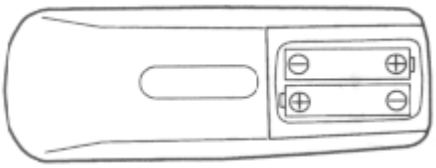
1

Open the battery compartment cover by pressing the cover on the remote unit in the direction of the arrow.



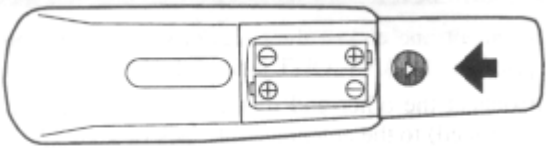
2

Insert 2 "AA" penlight batteries into the battery compartment in the direction indicated by the polarity (+/-) markings.



3

Replace the cover.



ANTENNA/CABLE SYSTEM CONNECTIONS

For some of the most common types of connections, see the following drawings. Use only one connection. For any further complex connections, please contact your local dealer or other qualified persons. (You may need additional accessories which are not supplied).

COMBINATION VHF/UHF ANTENNA

(1) Disconnect the round 75-ohm combination VHF/UHF coaxial antenna cable from the back of your TV set.

(2) Reconnect the coaxial cable to ANT.IN terminal of the VCR.

(3) Connect one end of the COAXIAL CABLE (supplied) to the ANT.OUT jack of the VCR.

(4) Connect the other end of the COAXIAL CABLE (supplied) to the antenna/cable jack of your TV.

See Combo Antenna Diagram.

CATV COAXIAL CABLE

(1) Disconnect the CATV coaxial cable from the back of your TV set.

(2) Reconnect the CATV coaxial cable to ANT.IN terminal of the VCR.

(3) Connect one end of the COAXIAL CABLE (supplied) to the ANT.OUT jack of the VCR.

(4) Connect the other end of the COAXIAL CABLE (supplied) to the antenna/cable jack of your TV.

See CATV Connection Diagram.

Note to CATV system installer
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

SEPARATE VHF (75-OHM) / UHF (300-OHM) ANTENNA

(1) Disconnect the VHF coaxial antenna cable and the UHF flat twin-lead antenna cable from the back of your TV set.

(2) Reconnect those cables to a UHF/VHF combiner (not supplied).

(3) Connect end of the UHF/VHF combiner to the ANT.IN terminal of the VCR.

(4) Connect one end of the COAXIAL CABLE (supplied) to the ANT.OUT terminal of the VCR.

(5) Connect the other end of the COAXIAL CABLE (supplied) to a UHF/VHF separator (not supplied).

(6) Connect the separator's coaxial end to the TV's VHF jack, and flat twin-lead end to the TV's UHF terminal.

See Separate VHF/UHF Connection Diagram.

INDOOR VHF/UHF ANTENNA

(1) Disconnect the indoor UHF/VHF antenna cable from the back of your TV set.

(2) Reconnect the cable to the ANT.IN terminal of the VCR.

(3) Connect one end of the COAXIAL CABLE (supplied) to the ANT.OUT terminal of the VCR.

(4) Connect the other end of the COAXIAL CABLE (supplied) to the antenna/cable jack of your TV.

See Indoor Antenna Diagram.

NOTE: The connection of an indoor antenna to a VCR may not always give acceptable TV Reception.

USING A/V JACKS WITH TV/MONITOR (OPTIONAL)

If your TV has A/V input jacks, you may connect your VCR's AUDIO/VIDEO OUTPUT jacks to the audio/video input jacks on back of your TV.

Direct audio/video connections usually result in a better picture and sound quality for tape playback. Please see your TV's owner's manual for details.

Then, set your TV to the Video mode using VCR/TV button on your TV.

See A/V Jacks Diagram.

TO COPY A VIDEO TAPE

Connect the editing (recording) VCR, the source (playing) VCR and your TV using the following diagram.

See Dubbing Diagram

1. Insert a pre-recorded video cassette into the source (playing) VCR.

2. Insert a blank video cassette, or one you want to record over, into the editing (recording) VCR cassette compartment.

3. Press TAPE SPEED button to select the desired recording speed (SLP, LP or SP) of the editing (recording) VCR.

4. Select AUX position on the editing (recording) VCR. See page 15, under "Input Select".

5. Press REC button on the editing (recording) VCR.

6. Begin playback of the tape in the source (playing) VCR.

NOTE: For best results during dubbing, use the VCR's front panel controls whenever possible. The remote control might affect the playback VCR's operation.

 Always use video-quality shielded cables with RCA-type connectors. Standard audio cables are not recommended.

 You can use a video disc player, satellite receiver, or other audio/video component with A/V outputs in place of the source (playing) VCR.

TO MONITOR THE RECORDING

1. Turn on the TV, and set it to the same output channel as the editing VCR channel 3 or 4.

2. Press VCR/TV button on the editing VCR so that VCR appears on the display.

USING A CABLE CONVERTER BOX

If your cable service supplies you with a cable converter box, you can use the basic connection shown below

See Cable Converter Diagram.

NOTES:
- With this connection, you CANNOT record one program and while viewing another.
- Channel memory programming is NOT needed when using this connection.

CONTROLLING VCR INPUT & OUTPUT

VIDEO OUTPUT CHANNEL SETTING (BACK OF VCR)

When the VCR is in the Playback mode, or when the VCR/TV button is in the VCR position, you TV will receive the signals from the VCR on either channel 3 or 4. Set the 3CH/4CH selector switch to the station that is not used for normal broadcasts in your area; then set your TV to that same channel when viewing from the VCR.

CH3 CH4

The video output channel of this unit is set to channel 3 prior to shipment from the factory.

INPUT SELECT

To use the external input jack, select the AUX position. Press CHANNEL "▲" or "▼" button or enter "00" with number button so that "AUX" appears on the screen.

VIDEO MODE SELECTION ON TV

TV power must be on. Please see your TV's owner's manual for details.

To Set your TV to the Video Mode

Connection Using Av cord (Refer to page 14.): Set your TV to the Video Mode using VCR/TV button of your TV. To set your TV to the TV mode, press VCR/TV button of your TV again.
Connection Without AV Cord (Refer to page 12, 13, 15): Set the TV channel to the same video output channel located on the back of the VCR. (CH 3 or 4) Then, set your VCR to the VCR mode using VCR/TV button of your VCR.

CHANNEL MEMORY PROGRAMMING (Without a Cable Box) pg. 16.

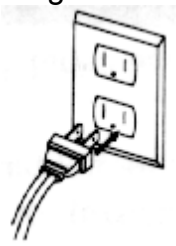
Channel memory programming is NOT needed when connected to a CABLE BOX. You can program the tuner to scan only the channels you receive in your area. See page 33 for channel designations.

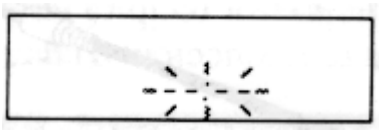
- **You must use remote control for this procedure.**

NOTES:
- Follow the steps below, once. Repeat it only if there is a power failure or the VCR is unplugged for more than 30 seconds. In these cases, since the programmed channels are erased, the VCR will prompt you with "--:--" when you turn it on.
- You must follow the steps below before attempting to play or record a video tape. If you want to play ore record a video tap BEFORE programming the tuner, you must first press POWER button to turn off the VCR. Then, press POWER button again to turn it back on. To program the tuner again, see "To preset channel memory again" on this page.

1

Plug the VCR power cord into a standard AC outlet. The "--:--" flashes.



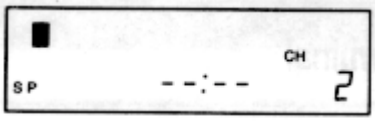


2

Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (CH3 or 4)

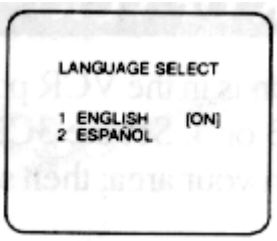
3

Press POWER button to turn on the VCR to that the "□" appears on the display.



4

Press the VCR/TV button on the remote control so that "VCR" appears on the display. "LANGUAGE SELECT" appears on the TV screen.

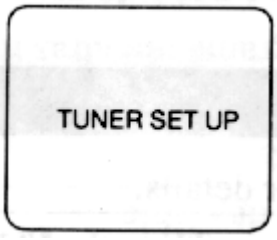


5

Select 1(ENGLISH) or 2(ESPANOL=SPANISH) with number buttons.

6

Press SELECT or MENU button on the remote control so that "TUNER SET UP" appears on the TV screen.

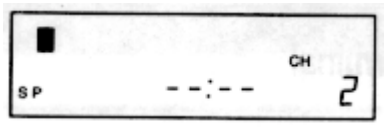


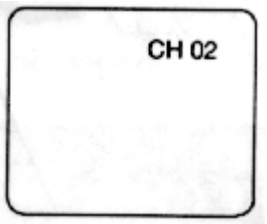
7

Press SELECT button once. The tuner scans and memorizes all the active channels in your area.

After scanning, the tuner stops on the lowest memorized channel.

The VCR distinguishes between standard TV channels and Cable channels. If you subscribe to cable TV, "CATV" appears on the display. (TV mode: from CH2/CATV mode: from CH1)





8

The TV screen returns to TV mode..

 If you want to recall the selected channels, you can select the desired channel directly by number buttons on the remote control.

 The TV screen returns to TV mode when you press MENU button in the Tuner Set Up mode.

To preset channel memory again

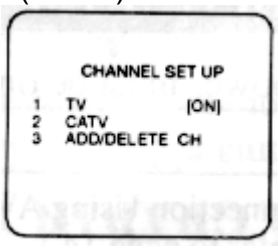
1 Turn on the VCR.

2 Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (CH3 or 4)

3 Press VCR/TV button on the remote control so that "VCR" appears on the display.

4 Press MENU button. Select item 3(INITIALIZE) with number buttons.

5 Select item 1(CHANNEL SET UP) with number buttons. And select 1(TV) or 2(CATV) with number buttons.



6 Press SELECT button once. After scanning, the tuner stops on the lowest memorized channel.

TO DELETE, ADD PRESET CHANNEL

Use this procedure to delete from memory the channels you no longer receive or seldom watch and to manually add to memory previously deleted channels.

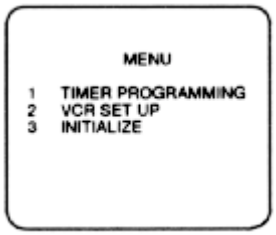
 Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (CH 3 or 4)

 Press VCR/TV button on the remote control so that "VCR" appears on the display.

DELETING PRESET CHANNELS

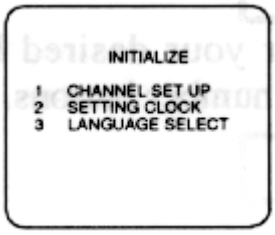
1

Press MENU button on the remote control. Select item 3 (INITIALIZE) with number buttons.



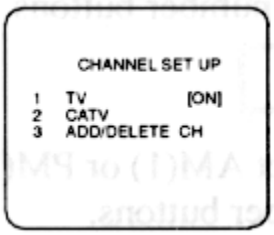
2

Select item 1 (CHANNEL SET UP) with number buttons.



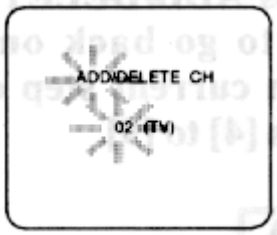
3

Select item 3 (ADD/DELETE CH) with number buttons.



4

Enter the desired channel using the number buttons. The channel flashes.
You must precede single-digit channel numbers with a zero (02, 03, 04 and so on).



5

Press ADD/DELETE button so that "DELETE" flashes on the display. The channel is deleted from the VCR.

□ For next channel you wish to delete, select that channel and follow step [5].

□ If you press ADD/DELETE button again, the channel is memorized again.

6

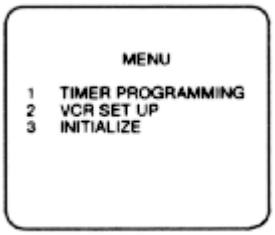
Press MENU button. The TV screen returns to TV mode.

□ To check the channel(s) that has been deleted, press CH ▲ or ▼ button.

ADDING PRESET CHANNELS

1

Press MENU button on the remote control. Select item 3 (INITIALIZE) with number buttons.

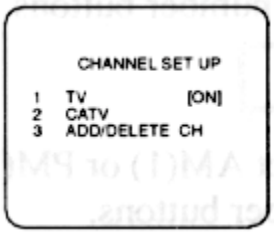


2

Select item 1 (CHANNEL SET UP) with number buttons.

3

Select item 3 (ADD/DELETE CH) with number buttons.



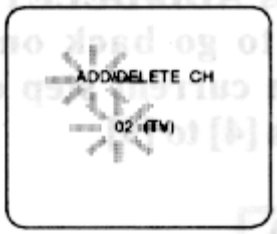
4

Enter the desired channel using the number buttons. The channel flashes.

You must precede single-digit channel numbers with a zero (02,03,04 and so on).

5

Press ADD/DELETE button so that "ADD" flashes on the display. The channel is added to the VCR.



□ For next channel you wish to add, select that channel and follow step [5].

□ If you press ADD/DELETE button again, the channel is deleted again.

6

Press MENU button. The TV screen returns to TV mode.

□ To check the channel(s) that has been added, press CH ▲ or ▼ button.

SETTING THE CLOCK

Set the clock accurately for proper automatic timer recording. We suggest that you use a TV or radio station as your time source.

□ VCR Power must be on.

□ Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (CH 3 or 4)

□ Press VCR/TV button on the remote control so that "VCR" appears on the display.

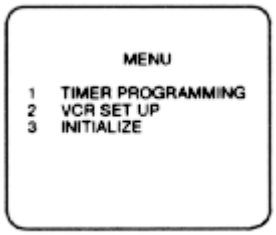
□ You must use remote control for this procedure.

In the example below, the clock is to be set to:

DATE	Wednesday 1st March, 1995
SETTING TIME	5:40 PM

1

Press MENU button on the remote control. The main menu appears on the TV screen.

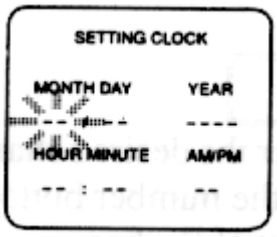


2

Select item 3 (INITIALIZE) with number buttons.

3

Select item 2 (SETTING CLOCK) with number buttons. The MONTH digits flash.



4

Enter your desired MONTH with number buttons.

5

Enter your desired DAY with number buttons.

6

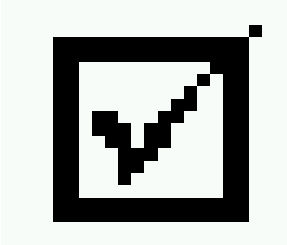
Enter your desired YEAR with number buttons.
The day of the week will change automatically.

7

Enter your desired HOUR with number buttons.

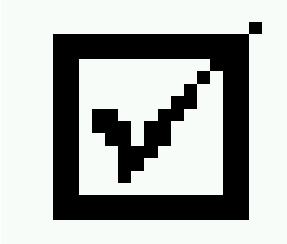
8

Enter your desired MINUTE with number buttons.



9

Select AM(1) or PM(2) with number buttons.



Press ADD/DELETE button to go back one step from current step during steps [4] to [9].

10

Press MENU or SELECT button to start the clock.

Although seconds are not displayed, they begin counting at 00 when you press them. Use this feature to synchronize the clock as accurately as possible.

This unit has a built in calendar up to the year 2009.

 When unplugging the AC-cord or if there is a power failure for more than 30 seconds, "--:--" flashes on the display.
 If the display shows an abnormal reading or no reading, unplug the power cord for more than 30 seconds. Then plug it back in.

TO CHANGE CLOCK SETTING

If you want to change the clock,
1 Turn on the VCR.

2 Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (CH3 or 4)
3 Press VCR/TV button on the remote control so that "VCR" appears on the display.
4 Press MENU button. Select item 3(INITIALIZE) with number buttons.
5 Select item 2(SETTING CLOCK) with number buttons.
6 Select desired digit with SELECT button.
7 Enter correct numbers with number buttons.
8 Press MENU button to return to original mode.

CHECKING THE REMAIN, COUNT, CLOCK AND CHANNEL NUMBER

To check the Remain, Count, Clock and Channel number on the TV screen or display, press SELECT button.
Each time you press SELECT button, TV screen or display will change as follows:

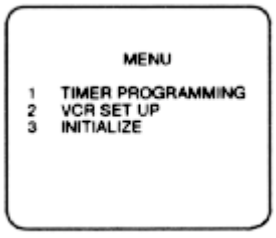
See diagram.

TO CHANGE THE LANGUAGE

 VCR Power must be on.
 Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR.(CH3 or 4).
 Press VCR/TV button on the remote control so that "VCR" appears on the display.
 You must use remote control for this procedure.

1

Press MENU button on the remote control. The main menu appears on the TV screen.

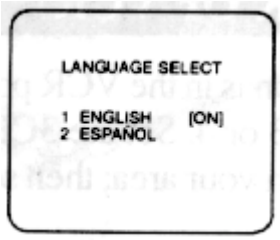


2

Select item 3(INITIALIZE) with number buttons.

3

elect item 3(LANGUAGE SELECT) with number buttons.



4

Select 1 (ENGLISH) or 2 (ESPAÑOL = SPANISH) with number buttons.

5

Press MENU button. The TV screen returns to TV mode.

VIEWING AND RECORDING THE SAME PROGRAM

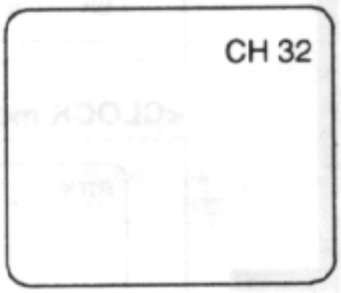
 VCR Power must be on.
 Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (Channel 3 or 4.)
 Press VCR/TV button on the remote control so that "VCR" appears on the display.

1

Insert a cassette tape with the erase-protection tab, if necessary, rewind or fast-forward the tape to the point at which you want to begin recording.
Counter mode appears at counter 00:00 on the display.

2

Select the channel to be recorded by pressing the number buttons on the remote control or the CHANNEL ▲ or ▼ button



3

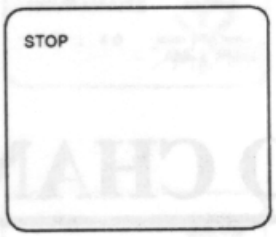
Press TAPE SPEED button on the remote control to select the desired tape speed (SP-LP-SLP).

4

Press REC button.
The red " ○ " indicator lights on the display.

5

Press STOP button when recording is completed.



TO DELETE SCENES DURING RECORDING

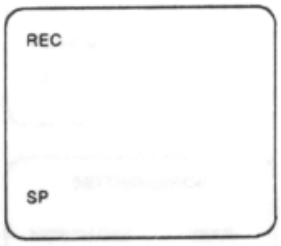
1

While VCR remains in record mode, press PAUSE button.

Note: If you do not press PAUSE button again within five minutes, VCR will automatically return to stop mode. You may review the time remaining with "□" marks on the display. Each "□" mark shows one minute.

2

Press PAUSE or REC button to resume recording.



EDIT SEARCH

To edit an unwanted segment from the already recorded portion of the tape while VCR remains in record mode.

1

While VCR remains in record mode, press PAUSE button.

2

Press and hold REW button until you have reached the beginning of the unwanted segment. (If you rewind past the beginning of the unwanted segment, press and hold F.FWD button until you have reached it.

Note: If you do not press PAUSE button again within five minutes, VCR will automatically return to the STOP mode.

3

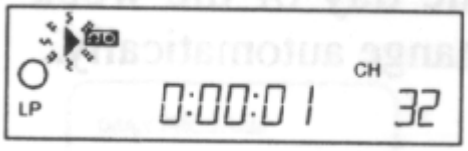
Press PAUSE or REC button to resume recording.

RECORDING ONE PROGRAM WHILE VIEWING ANOTHER

You can record one program while viewing another. To start recording, follow steps [1] to [4] under "VIEWING AND RECORDING THE SAME PROGRAM" on page 20.

5

Press VCR/TV button on the remote control so that "VCR" *disappears* from the display.



 If you connect VCR to TV using AV cord, set your TV to the TV mode using VCR/TV button of your TV.

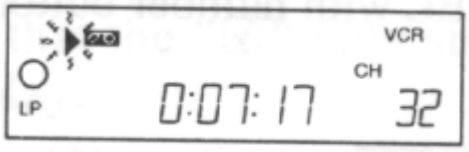
6

Set the TV to the channel you want to watch (leave the VCR tuned to the channel you want to record).

TO MONITOR THE RECORDING PROGRESS OF YOUR RECORDING,

7

Press VCR/TV button on the remote control so that "VCR" appears on the display.



8

Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (CH 3 or 4)

 If you connect the VCR to TV using the AV cord, set your TV to the VCR mode using VCR/TV button **of your TV.**

AUTOMATIC TIMER RECORDING

You may set the VCR to start and end a recording while you are away. You can set seven events to record on specific days, daily or weekly within a 1 year period.
 VCR Power must be on.

 Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (CH 3 or 4)
 Press VCR/TV button on the remote control so that "VCR" appears on the display.
 Clock must be set to the correct time and date before setting the timer.
 You must use the remote control for this procedure.

In the example below, the timer is being set to record:

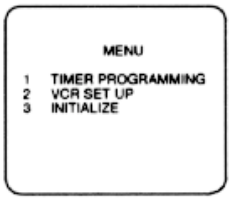
DATE	Saturday 6th May, 1995
SETTING TIME	from 7:30AM to 8:50 AM
CHANNEL	CH61
TAPE SPEED	LP

1

Insert a cassette tape with the erase-protection tab, if necessary, rewind or fast-forward the tape to the point at which you want to begin recording.

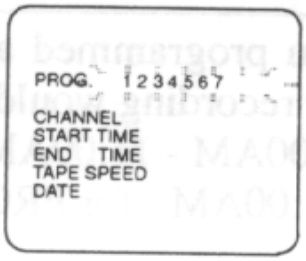
2

Press MENU button on the remote control. The main menu appears on the TV screen.



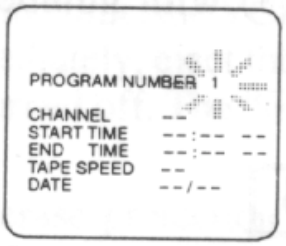
3

Select item 1 (TIMER PROGRAMMING) with the number buttons.



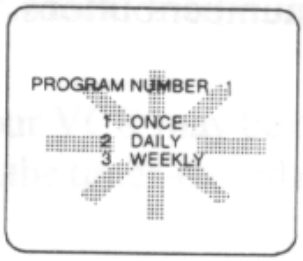
4

Select your desired program number with the number buttons. (Example: PROGRAM #1)



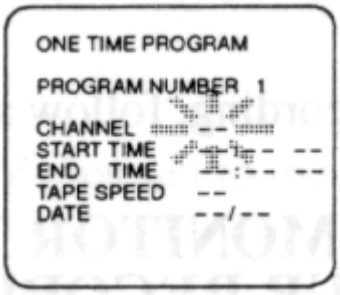
5

Pres SELECT button on the remote control.



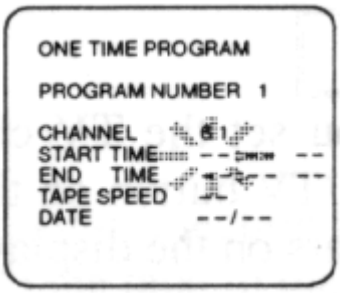
6

Select item 1 (ONCE) with number buttons. The CHANNEL digits flash.



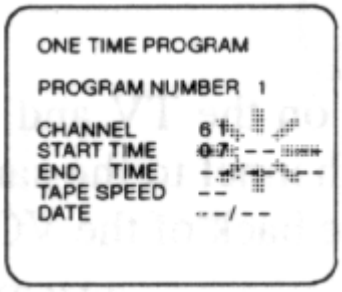
7

Enter your desired CHANNEL with number buttons.



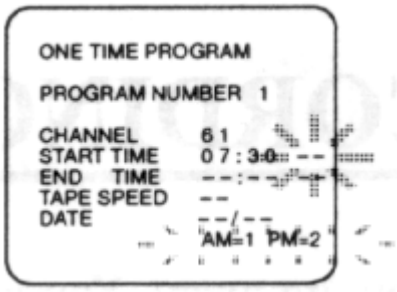
8

Enter your desired HOUR with number buttons.



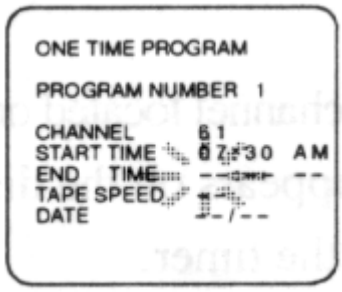
9

Enter your desired MINUTE with number buttons.



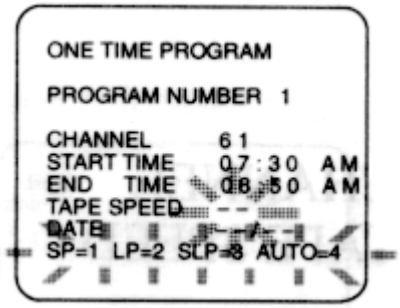
10

Select AM(1) or PM(2) with number buttons.



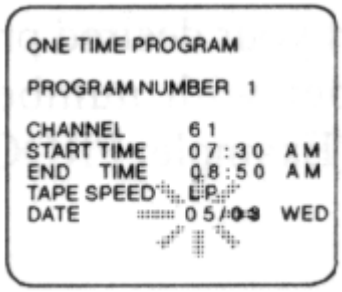
11

Repeat steps [8] - [10] to set the end time.



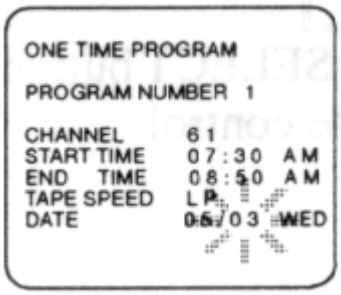
12

Select your desired recording speed SP (1), LP (2), SLP (3) or AUTO (4) with number buttons.
□AUTO (4) is available only with Program No. 1.
See "Just-In Time Recording" on page 25 for the use of AUTO (4) setting. Select your desired recording speed SP (1), LP (2), SLP (3) with number buttons.



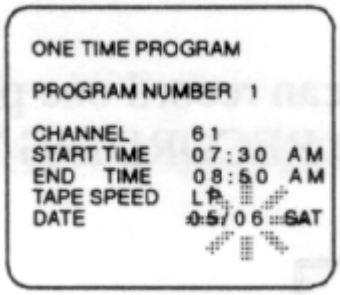
13

Enter your desired MONTH with number buttons.



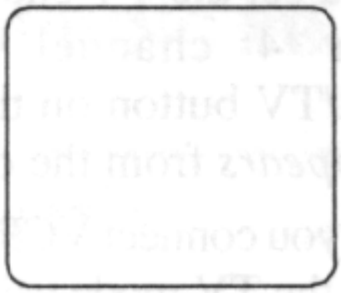
14

Enter your desired DAY with number buttons.



15

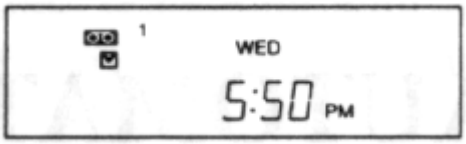
Press MENU button. Program 1 is now completed.



To set another program, repeat steps [2] - [15] starting on page 21.

16

Press POWER button. The "☑" indicator appears on the display. The number of all programmed events are displayed with current time.



NOTES:
- When the programs overlap, the earliest program has priority.
- When the earliest program has finished and the programs which should start still overlap, the recording will start in order of the program number.

See Timer Program Diagram 1

If you programmed as per the above illustration the timer recording would be carried out

as follows:

9:00AM-11:00AM for PROGRAM 2
11:00AM-12:00PM for PROGRAM 1
12:00PM-for program 3

See Timer Program Diagram 2

If you programmed as per the above illustration the timer recording would be carried out as follows:

9:00AM-11:00AM for PROGRAM 2
11:00AM- for PROGRAM 1

DAILY PROGRAM (MONDAY ~ SUNDAY)

To record a program at the same time on the same channel every day, follow steps [1] to [5] on page 21, then step [6a] below.

6a

Select item 2(DAILY) with number buttons.

Continue with step [7] on page 22 onwards.

WEEKLY PROGRAM

To record a program at the same time on the same channel every week, follow steps [1] to [5] on page 21, then step [6b] below.

6b

Select item 3(WEEKLY) with number buttons.

Continue with step [7] on page 22 onwards.

TO CORRECT OR CANCEL A PROGRAM

- Press ADD/DELETE button to go back one step from current step during steps [5] - [14].
- If you finished setting the program, repeat steps[2] to [4] on page 21. Then press SELECT button repeatedly until your desired digit flashes and reset program.
- You may cancel the entire program by pressing ADD/DELETE button at step [5].

CHECKING TIMER PROGRAMS

To check a program that is to be recorded using the Automatic Timer Program when the VCR is in the timer-record mode:

1) Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR. (CH 3 or 4)
2) Press POWER button so that the "☑" indicator *disappears* from the display.
3) Press VCR/TV button on the remote control so that "VCR" appears on the display.
4) Follow instructions in steps [2] to [5] on page 21. Information which was set for programming will now appear.

TO STOP RECORDING

Press STOP button on the VCR.

If you are recording using the Automatic Timer Program, you may not operate the unit manually, but, you may still stop the recording by pressing STOP/EJECT button on the VCR.

NOTE: STOP button on the remote control will not function in the Automatic Timer Recording mode.

AUTOMATIC TIMER RECORDING HINTS

- If there is a power failure of the VCR is unplugged for more than 30 seconds, the clock setting and all timer settings are lost.
- If the tape runs out before the end time, the VCR will switch to the STOP mode immediately, eject the tape and the VCR power will be turned off. The "☑" indicator will flash.
- If a tape is not inserted or the erase-protection tab is removed, the "☑" indicator flashes and automatic timer recording cannot occur. Insert a tape that allows recording.
- The TV that is connected to your VCR may be turned ON or OFF when the VCR is in the timer-record mode.

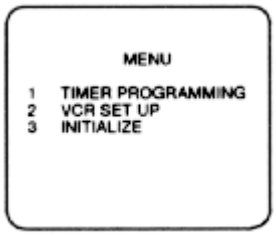
SETTING THE REMAINING TIME

You can set the remaining time of your tape.
If your cassette tape length is T-130 or less, select "~T130". For example, the popular T-120 cassette tape calls for the "~T130" selection. If your cassette tape is T-140 or greater, select "T-140~". Then the tape remaining indication will be correct.

NOTES:
- VCR power must be on.
- Turn on the TV and set the TV channel to the same video output channel located on the back of the VCR.(CH 3 or 4)
- Press the VCR/TV button on the remote control so that "VCR" appears on the display.
- You must use remote control for this procedure.

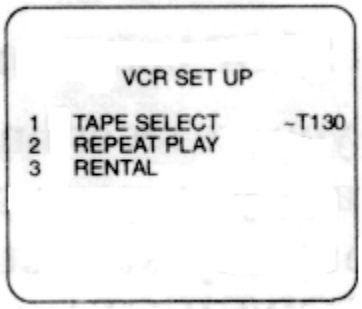
1

Press MENU button. Select item 2 (VCR SET UP) with number buttons.



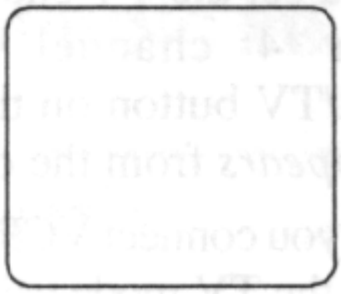
2

Select "~T130" or "T140~" with 1 button.



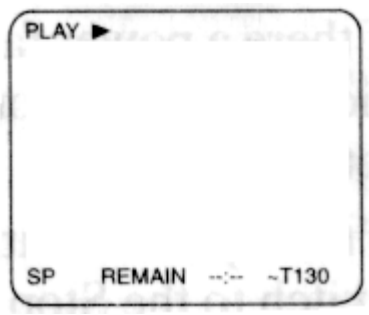
3

Press MENU button to return to normal mode.



4

To check the remain time, press SELECT button on the remote control unit until REMAIN appears on TV screen.



Notes:
 In the Remain Time Mode calculating will start when the cassette tape is inserted and PLAY button is pressed.
While calculating, the TV screen shows as illustrated.
 A video cassette must be inserted in the VCR for this function to work.

REMAINING TAPE RUNNING TIME DISPLAY

 Since the reel diameter and tape thickness are not common to all cassettes, the time count differs from cassette to cassette. Use the time display as an informative number only.
 During recording, the remaining tape running time is estimated based on the current recording mode (SP, LP, SLP).
 During playback the remaining tape running time is calculated based on the current playback mode.
 Remain time will not appear on TV screen while in the Fast forward or Rewind Mode.
 There will be a delay of up to 1 minute before the remain time appears on the TV display.

Note:
The use of the following tapes will result in difference between the displayed remaining time and actual time to the end of the tape:
 Tape housed in a VHS-C cassette adapter.
 Shorter tape length such as a 10-minute cassette.
 T-180 cassette. In this case the display may read 2 Hours, 40 Minutes at the start point of the tape in SP mode.

JUST -IN TIME RECORDING

This function allows you to fully utilize the available tape length for timer recording. The VCR calculates the remaining tape amount and then adjusts the tape speed from SP to SLP as needed.

If it is suspected that the end of the tape will be reached before the reserved program ends (as long as SP mode is kept all the way), set recording mode to AUTO. This function is available only with Program No. 1.

The AUTO mode starts recording in SP mode. The internal circuit compares the rest of the program against the available tape length. If the internal circuit determines that the available tape is not long enough to record the program in the SP mode, the Recording mode is automatically changed to SLP mode. This will assure coverage of the desired timer program before the end of the tape is reached.

See Diagram

Notes:
 Set the tape remainder switch ("~T130" or "T140~") to the taped loaded.
 Even if SLP mode is selected, just-in time recording cannot compensate for a tape length which may be too short.
 A momentary picture break up will occur at the point on the tape when the recording speed changes form SP to SLP.
 The displayed remaining tape running time may not always match the actual remaining time on the tape (usually longer than the actual time). It is recommended to set the end of the reserved recording time several minutes after the end of the TV program.

IRT (INSTANT RECORDING TIMER)

The Instant Recording timer function enables you to record a program simply by pressing IRT button on the VCR. According to the table, simply press IRT button as many times as needed to set the desired recording length. The channel number to be recorded and recording

length will be shown on the display.

1

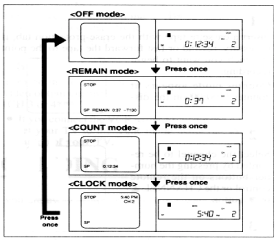
Turn on the VCR.

2

Set the VCR to the channel to be recorded.

3

Press IRT button.



Recording starts immediately when the IRT button is pressed, whether if you are watching the same or a different channel. The recording length will be determined by the number of times you press IRT button.

IRT Length Diagram

□ Each time you press IRT button, you will extend the recording time by 30 minutes at a time up to 8 hours (or to the end of the tape).
□ When IRT button is pressed 18 times, the VCR will switch to the Stop mode immediately and the VCR power will be turned off.
□ To stop the IRT operation, press STOP button.
□ The recording length time remaining is indicated on the display as the recording is started.
□ Recording stops when 0:00 is reached.
□ Please note that in the SLP mode maximum recording time, assuming the tape is started at the beginning, is 8 hours using T-160 (or 6 hours using T-120).
□ The TV that is connected to your VCR may be turned on or off during IRT recording.

MONITOR RECORDING

1

Turn on the TV and set the TV channel to the same VCR video output channel located on the back of the VCR. (CH 3 or 4)

2

Press VCR/TV button on remote control so that "VCR" appears on the display.

NOTE: The VCR will continue recording until the preset end time is reached or the tape runs out.

VIEWING ONLY TV (WITHOUT RECORDING)

The VCR must be plugged into an AC outlet.

1

Turn VCR power off or press VCR/TV button on the remote control to select TV, so that "VCR" *disappears* from the display.

2

Turn on the TV and select the channel you want to watch.
For viewing only TV, the VCR may be turned on or off, once "VCR" has been removed from the display.

PLAYBACK

1

Turn on the TV and set the TV channel to the same video output channel as located on the back of the VCR. (CH 3 or 4)

2

Insert a tape. VCR will automatically turn on. Press PLAY button.
(If the erase-protection tab has been removed, the VCR will start playback

automatically.)

3a

If a tape is already in the VCR, **press PLAY button <u>on the VCR.</u>** Power will turn on and playback will start automatically. (Direct Button Operation)

3b

If a tape is already in the VCR, **press POWER button to turn on, and then press PLAY button <u>on the remote control.</u>**

4

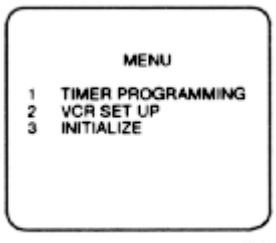
Press STOP button when playback is completed.

AUTO REPEAT PLAYBACK

The VCR has an auto repeat function that allows you to repeat a tape indefinitely without touching the PLAY button.

1

Press MENU button on the remote control. Select item 2 (VCR SET UP) with number buttons.

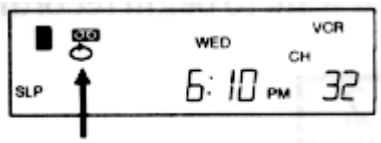


2

Select item 2 (REPEAT PLAY) with number buttons.
"ON" will appear next to "REPEAT PLAY."

3

Repeat playback will start automatically.



NOTES:
- Once you select the repeat play mode, it stays in effect even after you turn off the VCR.
- To exit the repeat play mode, repeat steps (1) and (2). "ON" will then disappear from the menu.

RENTAL PLAY

This function enables you to improve the picture quality when playing back worn cassettes such as those rented from a video shop.

1

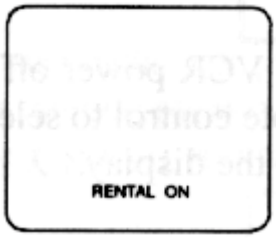
Insert rental tape into VCR. VCR will automatically start tape playback.
Press MENU button on the remote control. Select item 2 (VCR SET UP) with number buttons.

2

Select item 3 (RENTAL) with number buttons.

3

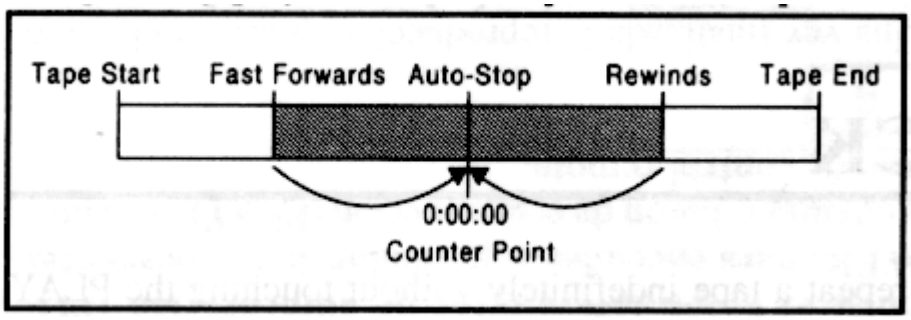
Press SELECT button repeatedly to select "ON".



NOTES:
- Once you select the rental play mode, it stays in effect even after you turn off the VCR.
- Selecting ON or OFF must be done in the play mode only.
- To exit the rental play mode, repeat steps (1) and (2). Then, follow step (3), but select "OFF" for normal playback.

COUNTER MEMORY

The COUNTER MEMORY button can be used during rewind or fast forward to automatically stop the tape when the counter reaches a preset memory position of approx. 0:00:00.
For example, this feature can be used to return the tape to a pre-selected position immediately after recording, or to repeatedly playback a certain portion of a tape.



1

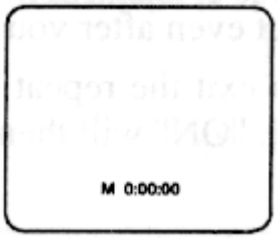
Insert a cassette tape with its safety tab in place, if necessary, rewind or fast forward the tape to the point at which you want to begin recording.

2

If the counter is not shown 0:00:00, press COUNTER RESET button to reset to 0:00:00.

3

Press COUNTER MEMORY button so that "M" appears on the TV screen.



4

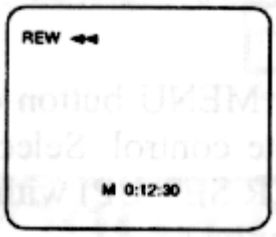
Press REC or PLAY button.

5

Press STOP button when recording or playback is completed.

6

(If the counter is not displayed, press SELECT button so that the counter appears on the VCR display or on the TV screen.) To activate the counter memory function, press REW button. The tape will automatically stop when the counter returns to 0:00:00.



To cancel the counter memory

When the counter appears on the display, press COUNTER MEMORY button so that "M" *disappears* from the TV screen.

SPECIAL FEATURES

Picture Search (SP/LP/SLP Mode)

You may view a video tape at a high speed in either a forward or reverse direction. This feature is useful in finding or skipping over a particular scene on a tape. In this mode, the sound will be muted.

Forward Direction:
When in the Play mode, press F.FWD button to view the tape at a fast speed in the forward direction.

Reverse Direction:
To view the tape at a fast speed in the reverse direction, pres REW button in the Play mode

For normal speed, simply press PLAY button.

Super High Speed Search (LP/SLP Mode)

For Picture Search in super high speed:
1) Press either F.FWD or REW button while the unit is in the Play mode.
2) Release button.
3) Depress it again. The unit will now search in super high speed.
For normal playback simply press PLAY button.

Vertical Hold Control

When the picture begins to vibrate vertically, adjust to stabilize the picture by pressing CHANNEL ▲ or ▼ button.

NOTES:
- This adjustment works only in the Still mode with CHANNEL ▲ or ▼ button.
- When the picture is distorted or rolling vertically, adjust vertical hold control on your TV.
- Some newer TV's do not have a user adjustable vertical hold control.

Still Picture During Playback

If you press PAUSE button during playback, the picture will "freeze" on the screen. You may use this feature to study details of a particular scene. Press PLAY button to continue playback.

NOTE: The VCR will automatically switch to the Stop mode, if it is left in the Pause mode for more than five minutes.

Tracking Adjustment - "DTR"

 Tracking adjustment will be set automatically (Digital Tracking function) when you start playback. "DTR" appears on the display.
 When playing pre-recorded tapes or tapes recorded on units other than your own, noise lines (black and white streaks) may appear on the playback picture. If this occurs, adjust the Tracking control by pressing CHANNEL ▲ or ▼ button until the streaks disappear. To return to the DTR function, stop the tape once and start playback again.

NOTE: This function is controlled only by the buttons on the VCR. This buttons on the remote control will not adjust Tracking.

Slow Tracking

 You can reduce the noise lines by pressing CHANNEL ▲ or ▼ button in slow mode too. Slow Tracking adjustment will not be set automatically.

Note: Press both PLAY and PAUSE button at the same time in Still mode and press CHANNEL ▲ or ▼ button on until the streaks disappear. To return to Still mode, press Pause button.

This enables you to see the picture in its entirety without distracting noise lines.

Auto Rewind

When the end of a tape is reached during recording, playback, or fast-forward, the tape will automatically rewind to the beginning (or to the 0:00:00 counter reading if the memory function is activated), eject, and the VCR will turn off.

NOTES:
 The tape will not auto-rewind during timer recording or Instant Recording Timer.
 When the tape is rewound to the preset memory position, the tape will not eject and the VCR will not turn off.

Slow Motion

Press both PLAY and PAUSE button at the same time to reduce the playback speed. The VCR mutes the sound during slow motion. You can control the speed by pressing F.FWD button (faster) or REW button (slower).
Press PLAY button to return to normal playback.

VIDEO CASETTE TAPE

This VCR will operate with any cassette that has the VHS mark. For best results we recommend the use of high-quality tapes.
 Do not use poor quality or damaged tapes.

The table below shows the recording/playback time using T-60, T-120, or T-160 tapes in the SP, LP, or SLP mode.

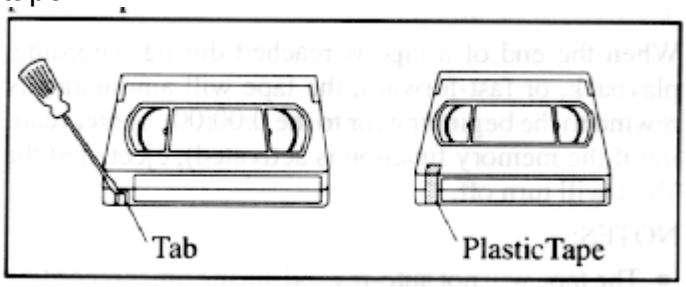
MODE	CASSETTE		
	T-60	T-120	T-160
SP Mode	1 hour	2 hours	2-2/3 hours
LP Mode	2 hours	4 hours	5-1/3 hours
SLP Mode	3 hours	6 hours	8 hours

When handling video tapes, follow the precautions below:

- Avoid moisture, which can condense on the tape if it is moved from a cold place to a warm place. Playing a tape that has moisture in it will damage the tape and your VCR. Before using a tape with these conditions, wait until the tape has warmed to room temperature and the moisture has evaporated.
- Avoid extreme heat, high humidity and magnetic fields.
- Do not tamper with the cassette mechanism.
- Do not touch the tape with your fingers.

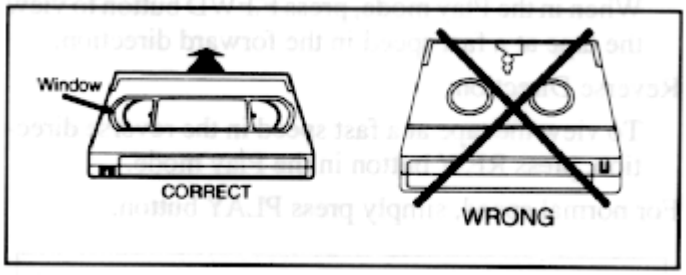
ERASE PREVENTION

You may prevent accidental erasing of a tape by breaking off the tab on the back edge of the cassette. If you decide to record on the tape again, cover the hole with plastic tape.



INSERTING A CASSETTE

Insert the cassette in the direction as shown. Push in gently, but continuously, on the center-back of the cassette until it is drawn into the VCR.
The VCR will automatically turn on, and cassette indicator will light when the cassette is properly inserted.



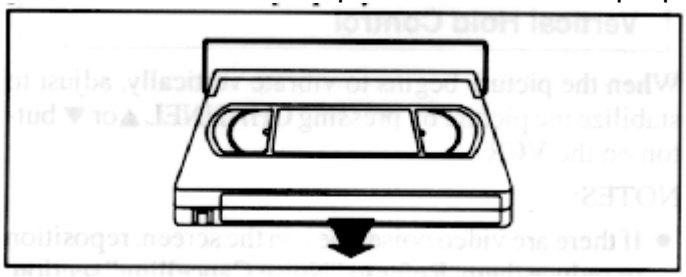
REMOVING A CASSETTE

1

Press STOP/EJECT button on the unit.

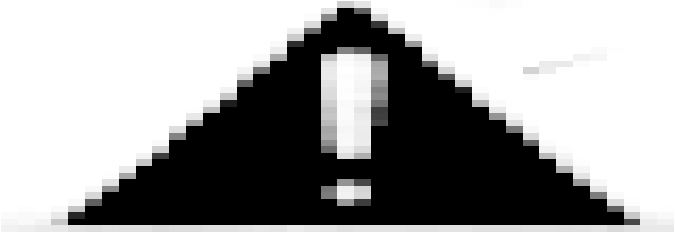
2

When the cassette-in indicator goes off and the cassette stops moving, pull the cassette our of tee cassette compartment and store properly.



3

Store the cassette in the case as shown.



CONTROLLING YOUR TV WITH THE VCR'S REMOTE CONTROL

This Hitachi remote control can be used with your TV as well as the VCR, as long as you TV comes with a remote control. This feature comes in handy--you don't have to juggle two remotes.
The remote control is compatible with the fifteen makers of TVs listed below--but don't be alarmed if yours is not on our list. You may still be able to program the remote for your TV.
Every TV that comes with a remote control is set up to detect certain infrared signals.

You need to program the VCR's remote control to send signals that your TV will recognize and respond to. Here's what to do:

Compatibility

- The remote control is designed to be operated with many televisions and cable converters, but will not work with every one made. If your TV or cable box does not respond the way is should when you program if as explained below, this remote may be incapable of operating it.
- Once you have programmed the remote, you won't have to do it again until you change the batteries.

PROGRAMMING THE REMOTE CONTROL

1

Turn your TV on (any channel is okay).

2

Aim the VCR's remote control at your TV set. Hold down the TV button (not the VCR/TV button) while you press the number corresponding to your brand of television as shown in the chart.

For example:
If you have an RCA television, press TV and 0 at the same time. If this button combination sends a signal that matches with your TV, the channel will change on the TV, and you'll know the remote is set to control the television.

Notes:

- If that button combination does not change the TV channel, go through the whole list of button combinations one by one until you find one that does change your TV channel.
- Also, if your brand of TV is not listed in the chart, try all the number buttons. One of them may work for you.
- If the TV channel still doesn't change after going through all the button combinations listed, it is likely that you will not be able to program this remote control for your TV.

TV Brands	Press TV and This Number
Hitachi	1
Zenith	2

Sony	3
Magnavox	4
Sanyo	5
Gold Star 1	6
Toshiba	7
Gold Star 2	8
Panasonic	9
RCA	0
Panasonic 1	CHANNEL (up arrow)
Mitsubishi	CHANNEL (down arrow)
JVC	100/ENT
Sharp 1	MEMORY
Sharp 2	SELECT

CONTROLLING THE TV

Once programmed, the VCR's remote control is ready to control the TV.

1

First press TV button to change to the TV function mode, them press the button of the TV function that you want.

For example;
Press TV button and the CHANNEL (▲), and the TV station will change to the next higher station.

2

Press VCR button to operate your VCR with the remote again.

Note:
 Be aware that not all of your TV's functions may work even though the remote control is correctly programmed.

REMOTE CONTROL OF THE CABLE CONVERTER

If you have a cable converter, you will probably want to program you VCR's remote control so you can easily change channels. The process is the same as for programming the remote to operate your TV. For additional details see the previous page.

1

Hold down the CATV button and press the number of your brand of cable box (shown in the chart below).

Note:
 If that button combination does not work, or if your brand is not on the chart, just go through all the button combinations until you find the one that works best.

Cable Converters	Press CATV and This Number
Jerrold 1	1
Jerrold 2	2
Jerrold 3	3
Hamlin	4
Zenith	5
Scientific Atlanta	6
Pioneer	7
Philips	8

To operate the cable box once the remote is programmed for it.

1

Press CATV and then the button of the function you want.

2

Press VCR button to operate your VCR with the remote again.

CABLE CHANNEL DESIGNATIONS

If you subscribe to cable TV, the channels are displayed as 1-125.

Cable companies often designate channels with letters or letter-number combinations. Please check with your local cable company. The following is a chart of common cable channel designations.

See Cable Channels Diagram.

MAINTENANCE

CABINET CLEANING

 Wipe the front panel and other exterior surfaces of the VCR with a soft cloth immersed in lukewarm water and wrung dry.
 Never use a solvent or alcohol. Do not spray insecticide liquid near the VCR. Such chemicals may cause damage and discoloration to the exposed surfaces.

HEAD CLEANING

 Picture playback may become blurred or interrupted while the TV program reception is clear. This does not mean that the recorded program has been erased. Dirt accumulated on the video heads after long periods of use, or the usage of rental or worn tapes can cause this problem. If a streaky or snowy picture appears during playback, the heads in your VCR may need to be cleaned. Please visit your local Audio/Video store and purchase a good quality VHS Video Head Cleaner. Remember to read the instructions included with the head cleaner before use. Clean heads only when problems occur. If this does not correct the problem, consult the nearest Authorized Service Center. Professional video head cleaning requires highly technical attention.

SERVICING

 Should your VCR become inoperative, do not try to correct the problem by yourself. There are no user-serviceable parts inside. Turn off, unplug the power cord, and take the unit to Authorized Service Center for servicing.

TECHNICAL SPECIFICATIONS

Format:	VHS
Video Signal System:	NTSC color EIA standard
Record/Playback System	Video: 4 heads
Tape Speed:	33.35mm/sec (SP), 16.67mm/sec (LP), 11.12mm/sec (SLP)
RF Input:	UHF/VHF 75 ohm
Tuner:	USA: 181 channel tuning ability *(125 cablechannels) Canada: 178 channel tuning ability *(122 cable channels)
Type:	Auto programming frequency synthesis
Power Input:	AC120V 60Hz
Power Consumption:	17 W nominal
Cabinet Size:	14-1/4" (W) x 3-5/8" (H) x 10" (D) 36.0cm (W) x 9.2cm (H) x 25.2cm (D)
Weight:	7.0 lbs. (3.2 kg) (approx.)
Storage Temperature:	-4° F to 131° F
Operating Temperature:	41° F to 104° F
Accessories:	1 coaxial cable (Part No. 5857952), 1 remote control unit (Part No. HL10472), 2 AA batteries

* Check your cable company's compatibility requirements.

For information about how to obtain these accessories, please call TOLL FREE 1-800-448-2244 for your nearest Hitachi Authorized Parts Distributor in the continental United States. For ALASKA and HAWAII, please contact the nearest Hitachi Regional office.

 Design and specifications subject to change without notice.

TROUBLESHOOTING GUIDE

If you have followed the instructions contained in this manual and have difficulty in operating your VCR, locate the SYMPTOM in the left column below. Check the corresponding POSSIBLE CAUSE and CORRECTIVE ACTION columns to remedy the problem.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No power.	Power cord is not connected.	Connect power cord to AC outlet.
	POWER button is set to off position.	Set the POWER button to on position.
Timer recording is not possible.	The timer recording is set incorrectly.	Set the timer recording correctly.
	The timer recording is not set to on position.	Set TIMER REC to on position.
	VCR clock Is not set correctly.	
Rec mode cannot be engaged.	The record safety tab on cassette is missing.	Place vinyl tape over missing safety tab.
No picture or poor picture on playback.	The TV channel selector is not set	Set your TV to the Video the proper channel.
	The TV fine tuning is not set correctly.	Fine tune your TV.
Noise in picture on playback.	Video heads are dirty.	Head cleaning is necessary, consult the nearest Authorized Service Center.
Playback picture is partially noisy.	The TRACKING control is not set correctly.	Adjust TRACKING control for a better picture.
On the air TV programs cannot be seen.	Connections are not correctly made.	Re-check the ANT. IN and ANT. Out connections.
	The TV or VCR is in VCR mode.	
No operation by infrared Remote.	Weak batteries	Check the batteries in Infrared remote control.

Hitachi Service Hotline

Authorized Hitachi service facilities are available throughout the US and Canada. For the location nearest you, call the Hitachi Service Hotline at one of these numbers:

In the continental U.S.A.

DIAL TOLL FREE
7 days a week, 24 hours a day
1-800-HITACHI
(1-800-448-2244)
You must state your zip code when calling

In Canada

QUEBEC	418-681-7719
MONTREAL	514-697-9150
TORONTO	416-821-4545
VANCOUVER	604-526-7881

HITACHI WARRANTY CARD (USA Front)

U. S. A. ONLY
NOT VALID IN CANADA

HITACHI

Hitachi Home Electronics (America), Inc.
Hitachi Sales Corporation of Hawaii, Inc.

LIMITED WARRANTY

Hitachi Home Electronics (America), Inc. and Hitachi Sales Corporation of Hawaii ("Hitachi",) warrants this component in duration as stated below:

**** VIDEO CASSETTE RECORDER***

**** CAMCORDER***
**** AC ADAPTER CHARGER***

*** 90 DAYS LABOR (Carry-in)**
*** 1 YEAR PARTS (Except Battery)**

Conditions of Hitachi Limited Warranty

Hitachi Video Products are warranted to be free of defects in parts and workmanship at the time of purchase by the original owner. If this product is found to be defective, Hitachi will repair or replace defective parts at no charge to the original owner. Parts used for replacement are warranted for the remainder of the original Limited Warranty period. For 90 days from the date of original purchase, Hitachi will provide labor for the repair or replacement of defective parts without charge, subject to the following conditions:

1. Owner must provide verification of the date of purchase when requesting Limited Warranty Service. (Dated Sales Receipt Required)
2. All repairs must be performed by a Hitachi Authorized Service Facility.

For information concerning repairs, operation, technical assistance or for referral to the location of your nearest Authorized Service Facility or Parts Distributor, call 1-800-HITACHI (1-800-448-2244)

HITACHI HOME ELECTRONICS (AMERICA), INC.
3890 Steve Reynolds Blvd.
Norcross, GA 30093
Tel: 404-279-5600

HITACHI SALES CORPORATION OF HAWAII
3219 Koapaka St.
Honolulu, HI 96819
Tel: 808-836-3621

HITACHI WARRANTY CARD (USA Back)

Warranty Limitations

The Limited Warranty provided by Hitachi does not cover:

A. Cabinet (exterior finish items), Battery Packs, Accessories, Head Cleanings, Video Tape Damage, or TV Set Modifications.
B. Any defect, malfunction, or failure caused by or resulting from improper service, maintenance, repair, use of Video Cleaning Cassettes, or from abuse, neglect, accident, or any other cause beyond the control of Hitachi.
C. Unpacking, set-up or installation, adjustment of customer operated controls, user instruction.
D. Any product with Serial Numbers altered or removed.
E. New products purchased or service performed outside of the continental United States or its possessions.
F. Product used for a commercial or industrial purpose.
NO PERSON, AGENT, DISTRIBUTOR, DEALER, SERVICE FACILITY, OR COMPANY IS AUTHORIZED TO CHANGE, MODIFY, OR AMEND THE TERMS OF THIS LIMITED WARRANTY IN ANY MANNER OR FASHION WHATSOEVER, EXCEPT AND TO THE EXTENT PROVIDED IN THIS LIMITED WARRANTY, HITACHI MAKES NO EXPRESS WARRANTY REGARDING THIS HITACHI PRODUCT. FURTHER, ALL IMPLIED WARRANTIES RELATING TO ANY PORTION OF THIS PRODUCT, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO 90 DAYS FOR LABOR AND TWO YEARS FOR PARTS, THE DURATION OF THE APPLICABLE EXPRESS WARRANTY CONTAINED ABOVE HITACHI SHALL NOT BE LIABLE TO THE PURCHASER OR TO ANY OTHER PERSON FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSS OF PROFIT OR PRODUCT RESULTING FROM ANY DEFECT IN OR MALFUNCTION OR FAILURE OF THIS HITACHI PRODUCT. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Important Notice:

Retain your sales receipt for warranty purposes. Please complete the section below for your records as it may be needed in the event of loss.
Attach sales receipt to this card.

VIDEO PRODUCTS LIMITED WARRANTY REGISTRATION

(for your record)

Model No.

Serial No.

Date of Purchase

Dealer Name

Dealer Address

City State Zip

HITACHI

**HITACHI WARRANTY CARD (Front)
CANADA ONLY**

NOT VALID IN U. S. A.

HITACHI

VIDEO PRODUCTS GOLD CARD WARRANTY

*** See inside for the GOLD CARD advantages and how to get it.**

HITACHI

EXCEPTIONAL PERFORMANCE

HITACHI (HSC) CANADA INC.

3300 Trans Canada Highway, Pointe Claire, Quebec H9R 1B1

IMPORTANT NOTICE: This warranty will not apply to products purchased outside of Canada OR sold by any organization other than HITACHI (HSC) CANADA INC.

PROTECTION PLAN CONDITIONS

A - This contract is exclusively for products manufactured and sold by Hitachi (HSC) Canada Inc., hereinafter called "Hitachi", purchased in Canada from a dealer duly accredited by Hitachi. The program is available only for products covered by an original validated Hitachi warranty given at the time of the purchase.
B - Hitachi will make repairs to the product mentioned in this plan, parts and labour charges included, until the expiry date of this plan.
C - THIS PROTECTION PLAN WILL BE IN FORCE ONLY AFTER EXPIRATION OF THE NORMAL PURCHASER'S WARRANTY. During the normal warranty the only valid proof required for servicing the product is the Hitachi GOLD CARD or the bill of purchase. The Protection Plan Card cannot be used as proof of warranty.
Only after the expiration of the normal warranty, the owner can have the product repaired, without charge at any authorized Hitachi Service Center upon presentation of the Protection Plan Card.
D - This Protection Plan is applicable to the product mentioned excluding the accessories such as cables, batteries, etc.
E - THIS PROTECTION PLAN DOES NOT COVER:
(1) Damage caused by incorrect use or negligence, unauthorized alteration, improper storage or repairs done by an unauthorized service depot;
(2) Damage caused by fire, flood, lightning, acts of God or other events beyond the control of Hitachi;
(3) External parts such as the cabinet, knobs, remote control case, antenna, cords, etc....;
(4) Any repairs if the product is used for rental or other commercial use.
(5) Any repairs done outside Canada;
(6) Repairs due to damage in transit, improper handling by carrier or improper packing by the owner (specifically applicable in the case of the product having to be shipped by the owner);
(7) In Home service. All video products must be brought to the Service Center for repairs;
(8) Original installation and any subsequent reinstallation or any transformation of the product;
(9) The replacement of the video camera pick-up element, if the pick-up element has been over exposed to an intense source of light;
(10) Cleaning the video heads.
F - All repair costs must be claimed from Hitachi, at all times, through an authorized Hitachi Service Center. The Plan Owner should never directly pay the authorized Service center unless given special authorization from Hitachi. No repair costs will be reimbursed directly to the Plan Owner.
G - The Plan Owner will receive a PLATINUM CARD which is the only valid document to be presented at the time of repair to an authorized Hitachi Service Center. THIS PROTECTION PLAN IS NOT TRANSFERABLE NOR REFUNDABLE.
H - This Protection Plan can be renewed as long as the request is made before the

expiry date of the Plan. Hitachi, however, reserves the right to refuse any renewal.
I - Hitachi reserves the right to cancel the Protection Plan in case of abuse by the owner, in such case, Hitachi will reimburse the owner the portion of the plan cost, based on the period used.
J - This plan does not constitute an insurance policy. It is the owner's responsibility to insure for loss of the product and for any damages which might occur and for loss or damages to any other object and for personal or property liability caused directly or indirectly by the product.

HITACHI CANADA WARRANTY CARD (Back)

Hitachi VIDEO PRODUCTS are guaranteed to be free from defects in workmanship and material. If any failure resulting from either workmanship or material defect should occur under normal and proper usage within the period stated hereunder from the original provable date of purchase, such failure should be repaired at no cost to the buyer, provided the defective product is brought to a HITACHI AUTHORIZED SERVICE CENTER in Canada.

NOTE: The GOLD CARD becomes the proof of your warranty. it assures you of a personalized quality service and it is accepted by our authorized service centres everywhere in Canada.

However, to receive your exclusive Hitachi GOLD CARD, you must include a copy of your bill of sale with the return portion of this warranty registration card.

"GOLD" WARRANTY PERIOD

Video Tape Recorder, Tuner, Timer, 1 year parts and labour.

Camera, camcorder, AC Adaptor, Charger, 1 year parts and labour.

All goods returned to either Hitachi or a Hitachi Authorized Service Center must be shipped on a "PREPAID BASIS". To avoid any damage to the returned goods, please ensure that proper packaging procedures are followed. A short written description of the problem along with proof of warranty should accompany the product returned for repair. Only products under warranty will be returned on a no-charge basis to the

customer. The customer is responsible for all transport costs if the product is no longer under warranty.

WARRANTY DOES NOT COVER

1. Products received for repair without sales or delivery receipt showing date of purchase by the original customer.
2. Damages caused by incorrect use, carelessness, unauthorized alterations, improper storage or unauthorized service or repairs.
3. Damage caused by fire, flood, lightning, acts of God, or other events beyond the control of Hitachi.
4. Batteries, tape cassettes, earphones, antennas, accessories and external parts such as cabinet and knobs.
5. PRODUCTS PURCHASED OUTSIDE CANADA.
6. Products used outside Canada
7. In transit damage claims, improper handling by carrier or post offices.
8. Products or parts thereof which have had serial numbers removed, altered or defaced.
9. Products used for commercial purposes.
10. ***PRODUCTS USED FOR RENTAL***
11. In home service at the customer's location.
12. Original installation (set-up) and all normal maintenance needed such as CLEANING OF VIDEO HEADS.
13. The replacement of the video camera pickup element if the pickup element has been OVER EXPOSED to an intense source of light.
14. Products sold in Canada by any organization other than HITACHI (HSC) CANADA INC.

IMPORTANT: *This warranty is in lieu of all other warranties, guarantees, or agreements whether express or implied, and no person, dealer or company is authorized to change, modify, or extend its terms in any manner whatsoever.*

HITACHI WARRANTY REGISTRATION (for your records)

Model No.

Serial No.

Date of Purchase

Dealer's Name

Dealer's Address

City

Province